

Konnor,

## TOPIC TEST

### Topic 1 – Organisations and data management

#### 1. Multiple Choice Questions (1 mark each)

1.1 The major reasons for supplying data via websites are:

- a. Convenience
- b. Variety of choice
- c. Reduce costs
- ☒ d. All of the above

✓

19/20

1.2 Which of the following is not an appropriate design tool for creating a RDBMS?

- a. Entity relationship diagram
- b. Data structure table
- c. Data structure diagram
- ☒ d. Storyboard

✓ 19/20 + 17/20 = 36/40 = 90%  
Konnor, multiple choice = A.  
excellent,  
short answers also

1.3 A cookie can be used:

- a. to keep a websites secure
- ☒ b. to keep track of data about users who visit a website
- c. to trace the websites you have created
- d. to leave a message for the creators of a website

✓ ✓ well done;  
you've studied

1.4 The most appropriate validation technique for ensuring the correct age of a person has been entered into a field would be:

- a. A range check to ensure the figure is less than 100.
- b. Proof reading
- c. A range between 0 – 110.
- ☒ d. Checking the entered data against the original data.

+ you know  
the theory  
~~answer~~  
newly

\* 1.5 A more effective information system would be one that:

- a. Allows quicker and easier data entry
- b. Lets more users gain access to the system
- ☒ c. Has in-built validation techniques
- ☒ d. Produces more accurate reports

X sdrawing cab

1.6 When analysing an information problem the first area to investigate would be:

- ☒ a. Solution requirements
- b. Scope of solution
- c. Solution criteria
- d. Solution constraints

✓

1.7 HTTPS refers to:

- a. Hypertext transfer protocol safe
- ☒ b. A protocol which provides security to a website
- c. The code in which a website has been written
- d. None of the above

1.8 Performing manual calculations to check the results of formulae would occur at which stage of problem solving?

- a. Analysis
- b. Design
- ☒ c. Testing
- d. Evaluation

1.9 A data structure diagram:

- a. Lists out the different fields in a table and their data types
- b. Is better suited to websites than a RDBMS
- ☒ c. Shows the relationship between the tables and fields in a relational database
- d. Is another name for a layout diagram

1.10 What is the purpose of an entity relationship diagram?

- a. Explains how each field should be set up in a table
- b. Depicts how a user will interact with data collections tools
- c. Illustrates the relationships and links between tables
- ☒ d. Establishes the interrelationships between different data elements

1.11 Which of the following would not improve the efficiency of an information system?

- a. Decreasing data entry time
- ☒ b. Improving quality of output
- c. Reducing costs of data entry
- d. Increasing the speed of the processing cycle

1.12 Which of the following would be the most appropriate name for a primary key field appearing in a table for customers?

- a. Customer code
- b. Code for customers
- ☒ c. CusCode
- d. Customer\_code

1.13 Setting a field to only accept a specified number of digits is an example of:

- a. A range check
- b. An existence check
- c. Manual validation
- ☒ d. An input mask

1.14 Data normalisation involves:

- ☒ a. Following a systematic set of rules to check for problems in data structure
- b. Means to only include one item in each field
- c. Making sure the data is either text, number, calculation or data format
- d. All of the above

1.15 The characteristics of an audience are an important factor at the design stage because:

- ☒ a. They will impact on the output requirements
- b. They will impact on the cost of the solution
- c. The audience may not be ready for the solution
- d. The audience may be colour blind

1.16 A field that uniquely identifies each record in a database table is known as:

- a. A one-to-many relationship
- b. Secondary key
- ☒ c. Primary key
- d. Customer code

1.17 The role of a macro when using a database is:

- a. To make sure steps are done in the correct order
- b. To replace macros
- ☒ c. To improve efficiency by automating certain procedures
- d. Turns results of a query into useable information

1.18 A dynamic webpage is one that:

- a. Is always up-to-date
- b. Takes control of the other pages in a website
- c. Is used to test the features of a website before making it fully functional
- ☒ d. Changes as requested by the user

1.19 The advantages of a relational database are:

- ☒ a. They allow relationships between tables and reduce data redundancy
- b. They allow validation of data as it is entered
- c. The relationships between data are based on the criteria created
- d. They are simpler to use than flat file databases

1.20 A one-to-many relationship refers to when:

- a. There is only one unique identifier
- ☒ b. The contents of the field can appear only once in one table but more than once in another
- c. When the primary key is the unique identifier
- d. Would occur in an athletics program because more than one athlete can be in an event

(20 marks)

## Short Answer Questions

Excellent

2. Distinguish between formal and informal testing.

~~1 mark~~ (1)

Formal testing is completed at the end of the development stage to see if the solution is working correctly and solves the problem, while informal testing is completed throughout development to see if the solution is behaving accordingly and if not, we can make changes. (1 mark) (1)

3. Data collection was formerly done using hand-written forms. Now many organisations collect it via a website. What are the advantages of collecting the data online for the organisation as opposed to the manual method?

It improves efficiency by -

- Reducing costs, staff don't have to be employed to enter data

- Reduces time for collection, not having to wait for postage or phone queues.

It improves effectiveness by -

- Accuracy is improved with no transcription errors with messy handwriting. (3)

- Validation also improves with an online form. (3 marks)

4. Distinguish between a data-entry layout and a report layout in a database. Which layout would have more emphasis on efficiency and which would have more emphasis on effectiveness? Explain your answer.

Data entry layout would have more emphasis on efficiency because it refers to a quicker method of data entry.

A Report layout would have more emphasis on effectiveness because it's focusing on how we present how information in an accurate, consistent and relevant manner.

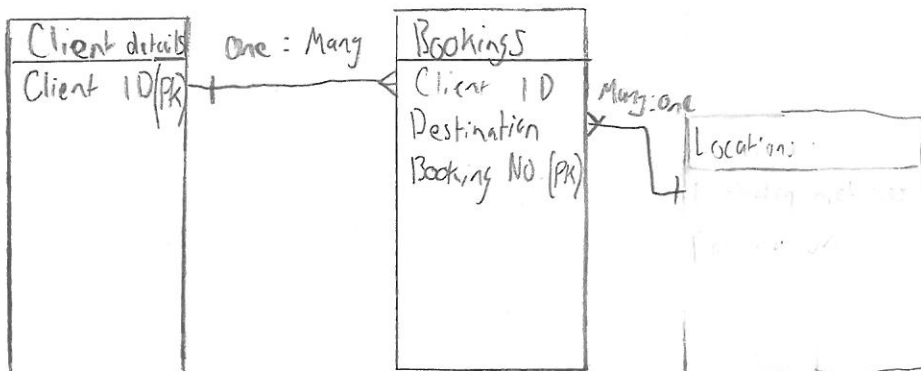
(3)

(3 marks)

## Case Study

Charlton Travel is a travel agency servicing the needs of the Charlton community. At present they are limited in the size of their market due to the size of the town. The manager has seen an opportunity to expand the business by offering services to other communities in the North west of the state that do not have access to a local travel agent. It has been suggested that this could be done by providing a service on-line, via a web page. This would allow customers to view what was available and to make bookings on-line. You have been employed as an IT consultant to help the business solve its information problem.

Draw a diagram that shows the tables and relationships that could exist in a RDBMS that you could create to help solve this problem. What is the name of this type of diagram?



Not a bad effort.  
2/4

Type of diagram: Data structure diagram.

(4 marks)

Which of the relationships would be a one-to-many relationship? Explain why.

Client ID in the client details table connected to Client ID in the bookings table because a client can have many bookings, but a booking can only have one client.

(1 mark)

Which of the fields would be the primary keys? Why?

Client ID in the client details table, Booking NO. in the Bookings table and why.

1/2

(2 marks)

Why should security of the data collected by Charlton Travel be an issue? Give two examples of security measures that could be used to protect the data.

- Because you're holding personal details of a customer and financial transactions are taking place, and if this information becomes corrupt the business could fall over and the customer's faith/satisfaction. An example of a security measure is systems security software which keeps data secure but might come at a price, and firewalls which keep data protected from other users of usernames & passwords, encryption and backing up - (2 marks)

What query might the organisation want to make in regard to the data stored?

A query/queries on the clients from separate towns such as Charlton, Sea Lake, Birchip and you can name it qry Clients From CHARLTON / Sea Lake / Birchip. (1 mark)

Give an example of two reports that the organisation may want to be produced from the database?

- All client details to show how many customers the business have.  
- All bookings that have occurred in the last month. (1 mark)

Outline two design principles that could be incorporated into the reports discussed in the previous question.

Alignment - Something for the eye to follow when reading the report.  
what do u mean!

Contrast - So the information the reader is reading can easily see the data, or key information. (2 marks)